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10/595,702

05/05/2006

Alexander Hauk

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SUITE 1100

WASHINGTON, DC 20006

EXAMINER

ZUCKER, PAUL A

ART UNIT

PAPER NUMBER

1621

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/595,702 | Applicant(s) HAUK ET AL. | |
| | Examiner Paul A. Zucker | Art Unit 1621 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Current Status

1. This action is responsive to Applicants' amendment of 19 October 2009.
2. Receipt and entry of Applicants' amendment is acknowledged.
3. Claims 1-16 are pending.
4. The rejection under 35 USC § 112, second paragraph, set forth in paragraph 1 of the previous Office Action mailed 17 July 2009 is withdrawn in response to Applicants' amendment.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was

Art Unit: 1621

made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-16 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Strofer et al (US 2003/0092939-A1 05-2003).

Instantly claimed is a process for preparing acid formates in which a formic acid stream and a metal formate stream are mixed in a rectification column and a bottoms stream comprising the acid formate is taken off from the rectification column as a melt comprising less than 0.5% by weight of water.

Strofer teaches (FIG 2, paragraphs [0063]-[0065]) the mixing and addition of a formic acid stream and a metal formate stream and the introduction of the mixed streams into a distillation column in which the Examiner considers mixing to continue to occur. The Examiner considers the use of column packing obvious in the context of distillation and that the dividing wall taught (Paragraph [0036]) by Strofer satisfies this limitation as well. Strofer teaches (Paragraph [0041]) producing a formate melt at the bottom of the distillation column at temperature between 8°C and 120°C.

Strofer teaches (Paragraph [0037]) that the melt has preferably less than 0.1% water content. Strofer teaches (Paragraph [0042]) that formic acid can be used in a stream containing 99.99% by weight formic acid. Strofer teaches (Paragraph [0047]) that order of steps can be varied. Strofer teaches (FIG 2) the introduction of reactants through the side of the column but does not specify the positioning or number of theoretical plates, requiring one of ordinary skill in the art to determine

Art Unit: 1621

these during optimization of the process. Strofer is silent with regard to reactant ratios, again requiring one of ordinary skill in the art to determine the ratios during optimization.

The difference between the instantly claimed process and that by Strofer is that pre-column mixing of formic acid and the metal formate is taught by Strofer while introduction of separate streams into the column is instantly employed.

The elimination of the pre-column mixer is obvious, however, in the absence of unexpected results resulting from the pre-column use of a mixer, especially in the case of use of highly concentrated reactant stream where clogging could occur due to the formation of precipitate or a highly viscous stream. In view of Strofer's preference (Paragraph [0044]) for a static mixer, there would have been a reasonable expectation for success in eliminating the mixer and using direct in-column contact of reactants.

Examiner's Response to Applicants' Remarks With Regard to This Rejection

6. Applicants' have presented arguments in regard to this rejection. The Examiner responds to these below:

- a. Applicants argue with the assertion that the occurrence of clogging due to the formation of a precipitate provides motivation to remove mixer 8 in the apparatus of Strofer and that it would provide motivation to install an even bigger mixer to break up clogging. The Examiner disagrees that the ordinary artisan would have been motivated to use a larger mixer in order to deal with

Art Unit: 1621

clogging since there is no teaching in Strofer that the purpose of the mixer is to break up solid precipitate. This is especially true given Strofer's preference for the use of a static mixer which would not be expected to serve such a purpose.

- b. Applicants argue that the essential difference between Strofer and the claimed is the compulsory performance of a mixing step. In response to this point, the Examiner responds that Applicants' claimed process does not exclude a mixing step prior to introduction of the reacting streams onto the column. This is underscored by the fact that an identical feed point for the streams I and II may be used in which mixing prior to introduction to the column would, in fact, be compulsory.
- c. Applicants argue that the skilled artisan would not have expected to obtain the result achieved with the claimed subject matter, i.e., a product mixture with generally less than 0.5 % by weight of water, by eliminating a process step clearly indicated as being important for the process in Strofer. Here Applicants' argue unexpected results the have not been demonstrated in a side-by-side comparison. Further, Applicants argue that this result flows from elimination of the mixing step. This modification, however, is not a limitation of the invention as claimed (See § 6b above).
- d. Applicants argue that it is one advantage of the claimed process that it allows to prepare a melt having a low water content even with a distillation column having a lower number of theoretical plates than the related art. The

Art Unit: 1621

Examiner points out in response to Applicants' argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the elimination of the mixing step) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant's arguments filed 19 October 2009 have been fully considered but they are not persuasive for the reasons set forth above.

Conclusion

7. Claims 1-16 are pending. Claims 1-16 are finally rejected.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing

Art Unit: 1621

date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul A. Zucker whose telephone number is 571-272-0650. The examiner can normally be reached on Monday-Friday 5:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Sullivan can be reached on 571-272-0779. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Paul A. Zucker/
Primary Examiner, Art Unit 1621